Sirex noctilio

A worldwide pest of pines

Order: Hymenoptera

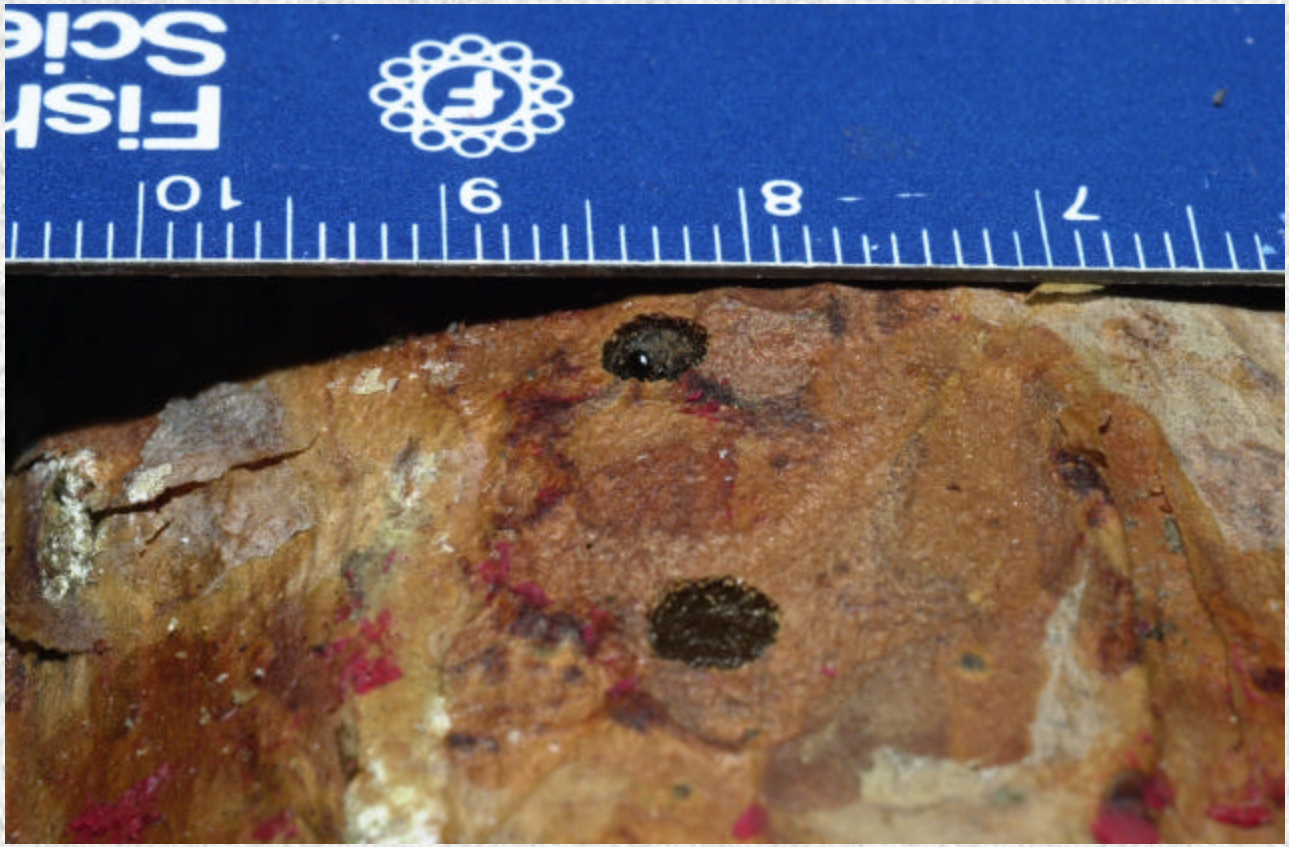
Family: Siricidae

Genus: Sirex

Species: noctilio

Of the approximately 100 species of Siricids, 23 are native to North America. We have 9 native Sirex species.

S. noctilio Adult Emerging



S. noctilio male

S. noctilio female

Females Oviposit from 20 to 500 Eggs

They also inject a mucus which disrupts the tree’s vascular system

Amylostereum aerolatum

- Is a symbiotic/mutualistic Basidiomycetes fungi which females transfer from mycangial sacs at the base of the ovipositer.
- The fungi is necessary for Sirex larval growth and development.
- The fungi robs the tree of moisture, disrupts the vascular system, and destroys the cellulose and lignin. The fungal activities aid the larval feeding and tunneling.

Larval development can last from 10 months to over 3 years.

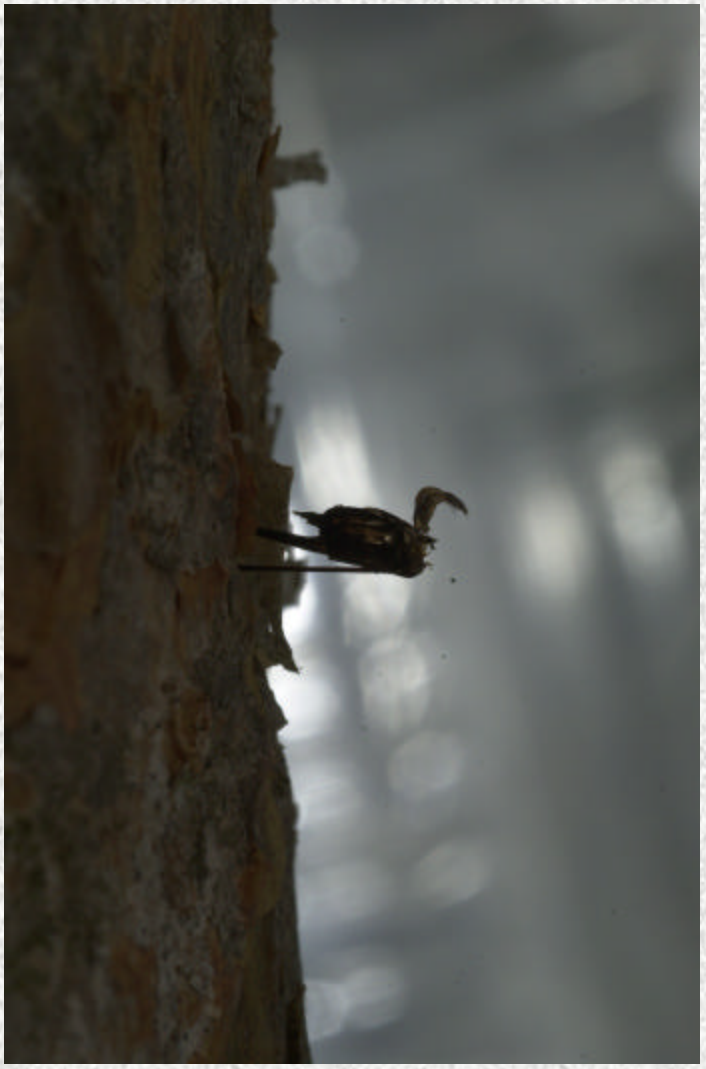
Larval Galleries

- Serpentine.
- Round in cross section.
- Filled with a white fungal mat.

Symptoms

- Needles turn light green, followed by yellow and finally red.
- Beads of resin flow from oviposition sites.
- Exit holes (3-8mm diam.) are present the year following attack.
- Serpentine galleries are in the wood.
- There are larvae with the characteristic horn-tail present.
- Cambium has parallel bands of brown stain.

Sometimes ovipositing females become stuck and their bodies or lower abdomen persist on the tree.



Control

- Tree removal
- Insecticides
- Biological
- Parasitoids
  - *Ibalia leucospoides*
  - *Megarhyssa nortoni*
  - *Rhyssa hoferi*
  - *Physsa persausoria*
  - *Schletterius cinctips*

Deladenus siridicola

- Causes parasitic castration in males.
- Causes sterility in females. They produce eggs filled with nematodes.
- The nematodes feed on the fungal symbiont (A. areolatum) and invade the Sirex larvae and pupae.

Hosts

- All Pinus species.
- Stressed pines are preferred.
- Pines that produce a large resin flow may be somewhat resistant.
- Possibly, species of Abies, Picea, Larix, and Pseudotsuga act as host.


DISTRIBUTION AND SPREAD OF *Sirex noctilio*
NATURAL RANGE
INTRODUCED RANGE
UGA0017025

Sirex Introductions

- New Zealand - early 1900’s
- Australia - early 1950’s (1952?)
- South America, Brazil - 1960? continuing
- South Africa - 1994?
- North America - 2004?

Survey

- Trap trees.
- Semiochemical baited traps.
- A cooperative project was initiated in Sept. of 2003 with Penn State University to identify compounds which could be used to survey.
- To date, we have identified some female attractants. Continuing work is focused on optimizing a female attractant, developing a male attractant, and trap.